About half a minute before the beginning of totality I removed the sun shade from the eye-piece of the telescope, and then saw the uncovered portion of the sun as a very fine crescent, rapidly diminishing in length and breadth, the outer edge very sharply defined, the inner edge slightly surrated. Presently detached points of light began to appear at the retreating cusps and disappear immediately; and in two or three seconds more, the remaining fragment of the crescent, now very slender, broke up irregularly into fragments (not like beads, but more like a line of stars) and vanished immediately, being replaced by a jagged reddish line, which extended to a considerable distance round the edge of the moon.

While the last of the crescent was vanishing, the corona came rolling round the edge of the moon both ways, like two great waves, which met each other at the point where the light disappeared. The changes were so sudden and impressive, that I omitted to note the second called out at the beginning of totality. Neither did I observe when the corona first became visible at the west side of the moon, my attention being occupied at the east side. About two minutes before totality, however, the disc of the moon, especially near the edge, was plainly visible, of a creamy tint on a darker background.

The corona, as seen through the telescope, seemed to be bristling with fine radial lines, something like what appears about an electric arc light, but not so long, extending from the base somewhat beyond the indefinite outline. The breadth varied from about a fourth of the diameter at the poles, to a third of a diameter near the equator. No gaps or long rays were seen. The accompanying sketch gives a fair representation of what I saw, but the prominences may not be in their exact position, as taking angular measurements under the circumstances was out of the question. Several who have seen the drawing say that the large prominence on the west side is drawn too small.

ARTHUR BEVERLEY.

Wellington, 16th September, 1885.

The instrument used by me at Bennett's or Otahoua Hill, near Masterton, for the purpose of photographing the corona, was a 5″ refracting telescope, kindly lent by G. V. Shannon, Esq.

The whole of the eye-piece and connections were removed, and into the main tube another was slid, to which was attached a plate-box to carry plates $4\frac{3}{4}$ inches square. This gave a focal length of 75 inches, and an image half-an-inch in diameter. The actinic focus was found by taking a series of photographs of the moon the previous week.

The eventful day broke with a strong gale of wind accompanied by snow showers, and turned out anything but favorable for photographic purposes at the time of totality.

The small portable observatory used, was not of a size sufficient to place the whole of the telescope inside, and, notwithstanding that the utmost precaution was taken to shelter the exposed two feet from the strong wind, by a screen made of a tent fly, the only photograph we succeeded in getting, shows that it was greatly shaken during the short exposure of one second. Three plates (Wratten's rapid) were exposed for corona 42″, 1′ 3″, and 1′ 19″, after beginning of totality, respectively, with exposures of 1″, 3″, and 4″. Immediately after the third the corona was completely obscured by a dense cloud. In developing, No. 1 came up indifferently, and is almost useless, except, perhaps, in connection with other photographs; moreover, some outside light appears on the plate in the shape of a large ray, striking diagonally downwards from the principal prominences, which must not be confounded with impressions given by the corona. It is singular that this plate only, out of the eight exposed before, during, and after totality, should show signs of foreign light having got to it. Plate No. 2, with the utmost pressure in development, showed but a slight trace with no printing density, and No. 3 gave no impression whatever.

It is evident from this, that although the inner corona for a time was plainly seen by the observers around, the advance of the heavy cloud covered it and absorbed the actinic rays. As a proof of the want of clearness in the atmosphere, the observers saw nothing of the outer corona.

The print from negative No. 1, such as it is, shows the position of the prominences, and also the extension of the corona at the equator more so than at the poles.

In the operations I was assisted by Messrs. T. L. Barker and T. L. Humphries.

THOS. HUMPHRIES.

No. 2.—THE WELLINGTON OBSERVATIONS.

Notes on the Solar Eclipse of September 9th, 1885, as observed at Wellington, N.Z., Lat. 41° 17′ 28″ S; Long. 174° 47′ 11·5″ East.

The arrangements made for the observations were:

1. Mr. Gordon with a 5″ theodolite to note times of beginning and end of totality, the structure of the corona, the form of the protuberances, sun spots, stars.

2. Mr. Grant to sketch outline and form of corona, and estimate its distance in solar diameters from the moon's edge.

3. Mr. Watt to note the intensity of light during totality by experiment on print, to watch approach of shade, wind before, during, and after totality, read barometer and thermometer before, during, and after totality, to notice the appearances of faces, birds, fowls.

4. Mr. Barron to photograph with a $2\frac{3}{4}$′ refracting telescope of 4ft. focal length, by Elliot Brothers, the property of Mr. Thomas Humphries.

5. Mr. Richards to expose at the object glass.

6. Mr. McCardell to note times of photographs. David Barron to call out times for Mr. Gordon.

Previous to the day of the eclipse, a map of the central line of eclipse and form of moon's shadow had been prepared, with the times of the beginning and end of totality marked thereon. This indicated that the beginning of totality would be at 7h. 35m. and its duration about 88secs.

The sky was obscured at sunrise by a dense bank of clouds, the wind blowing strong and with frequent gusts from the cold south. The bank of clouds remained on the horizon, and at 6h. 41m. the first glimpse of the sun was obtained, with the moon sharply defined on the upper left edge.